WHAT IS CLAIMED IS

1. A central control station, which controls radio base stations connected thereto via radio links and optical fiber links, comprising:

a demultiplexing unit which demultiplexes signals supplied from an upper-level station;

signal conversion units which convert the respective demultiplexed signals into converted signals having a unified transmission format; and

a distribution unit which distributes the converted signals to the radio links and the optical fiber links.

2. The central control station as claimed in claim 1, wherein said signal conversion units are intermediate-frequency conversion units which convert the respective demultiplexed signals into intermediate frequency signals having an intermediate frequency, and said central control station further comprising:

a radio frequency conversion unit which converts one of the intermediate frequency signals into a radio frequency signal having a radio frequency;

a radio transmission unit which transmits the radio frequency signal to one of the radio base

stations; and

an optical signal transmission unit which transmits one of the intermediate frequency signals to one of the radio base stations after conversion thereof into an optical signal,

whereby the signals from the upper-level station are transmitted by the radio transmission unit to the one of the radio base stations connected to the central control station via one of the radio links, and are transmitted by the optical signal transmission unit to the one of the radio base stations connected to the central control station via one of the optical fiber links.

3. The central control station as claimed in claim 1, wherein said signal conversion units are radio-frequency conversion units which convert the respective demultiplexed signals into radio frequency signals having a radio frequency, and said central control station further comprising:

an intermediate frequency conversion unit which converts one of the radio frequency signals into an intermediate frequency signal having an intermediate frequency;

a radio transmission unit which transmits one of the radio frequency signals to one of the radio base stations; and

an optical signal transmission unit which transmits the intermediate frequency signal or one of the radio frequency signals to one of the radio base stations after conversion thereof into an optical signal,

whereby the signals from the upper-level station are transmitted by the radio transmission unit to the one of the radio base stations connected to the central control station via one of the radio links, and are transmitted by the optical signal transmission unit to the one of the radio base stations connected to the central control station via one of the optical fiber links.

4. The central control station as claimed in claim 1, wherein said signal conversion units are radio-frequency conversion units which convert the respective demultiplexed signals into radio frequency signals having a radio frequency, and said central control station further comprising:

a radio transmission unit which transmits one of the radio frequency signals to one of the radio base stations; and

an optical signal transmission unit which transmits one of the radio frequency signals to one of the radio base stations after conversion thereof into an optical signal,

whereby the signals from the upper-level station are transmitted by the radio transmission unit to the one of the radio base stations connected to the central control station via one of the radio links, and are transmitted by the optical signal transmission unit to the one of the radio base stations connected to the central control station via one of the optical fiber links.

5. The central control station as claimed in claim 1, wherein said signal conversion units are base-band modulation units which convert the respective demultiplexed signals into base-band signals, and said central control station further comprising:

a digital-to-analog conversion unit which converts one of the base-band signals into an analog signal;

a radio frequency conversion unit which converts the analog signal into a radio frequency signal having a radio frequency;

a radio transmission unit which transmits the radio frequency signal to one of the radio base stations;

an optical signal conversion unit which converts one of the base-band signals into a signal for optical fiber communication; and

an optical signal transmission unit which converts the signal for optical fiber communication into an optical signal, and transmits the optical signal to one of the radio base stations,

whereby the signals from the upper-level station are transmitted by the radio transmission unit to the one of the radio base stations connected to the central control station via one of the radio links, and are transmitted by the optical signal transmission unit to the one of the radio base stations connected to the central control station

via one of the optical fiber links.

6. The central control station as claimed in claim 1, wherein said signal conversion units are base-band modulation units which convert the respective demultiplexed signals into base-band signals, and said central control station further comprising:

a digital-to-analog conversion unit which converts one of the base-band signals into an analog signal;

a radio frequency conversion unit which converts the analog signal into a radio frequency signal having a radio frequency;

an intermediate frequency conversion unit which converts one of the base-band signals into an intermediate frequency signal having an intermediate frequency;

a radio transmission unit which transmits the radio frequency signal to one of the radio base stations;

an optical signal conversion unit which converts one of the base-band signals into a signal for optical fiber communication; and

an optical signal transmission unit which converts the intermediate frequency signal or the signal for optical fiber communication into an optical signal, and transmits the optical signal to one of the radio base stations,

whereby the signals from the upper-level

station are transmitted by the radio transmission unit to the one of the radio base stations connected to the central control station via one of the radio links, and are transmitted by the optical signal transmission unit to the one of the radio base stations connected to the central control station via one of the optical fiber links.

7. A method of processing signals in a control station which controls radio base stations connected thereto via radio links and optical fiber links, comprising the steps of:

demultiplexing signals supplied from an upper-level station;

converting the demultiplexed signals into converted signals having a unified transmission format; and

distributing the converted signals to the radio links and the optical fiber links.

8. A radio-base-station system, comprising:

a plurality of radio base stations; and

a central control station controlling said radio base stations and connected to some of said radio base stations directly via optical fibers,

wherein one of said radio base stations

includes a radio frequency conversion unit configured to convert an intermediate frequency signal into a radio frequency signal and a radio transmission unit configured to transmit the radio frequency signal to another one of said radio base stations, whereby said one of said radio base stations receives a signal having an intermediate frequency from the central control station, and transmits the signal received from the central control station to said another one of said radio base stations.

9. A radio-base-station system, comprising:

a plurality of radio base stations; and

a central control station controlling said radio base stations and connected to some of said radio base stations directly via optical fibers,

wherein one of said radio base stations includes a radio transmission unit configured to transmit a radio frequency signal to another one of said radio base stations, whereby said one of said radio base stations receives a signal having a radio frequency from the central control station, and transmits the signal received from the central control station to said another one of said radio base stations.

10. A radio-base-station system,

comprising:

a plurality of radio base stations; and

a central control station controlling said radio base stations and connected to some of said radio base stations directly via optical fibers,

wherein one of said radio base stations includes a digital-to-analog conversion unit configured to convert a base-band signal into an analog signal, a radio frequency conversion unit configured to convert the analog signal into a radio frequency signal, and a radio transmission unit configured to transmit the radio frequency signal to another one of said radio base stations, whereby said one of said radio base stations receives a signal as a digital signal from the central control station, and transmits the signal received from the central control station to said another one of said radio base stations.

Add A1